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ABSTRACT

The parent training component of early childhood intervention programs was examined with four handicapped children (26 to 29 months old) and their mothers. Antecendent and contingent modeling, two procedures that parents are commonly trained to use with their handicapped children, were investigated. Each modeling procedure was effective in teaching children; however, quantitatively and qualitatively distinct interactions between parent and child were generated by each procedure. It was concluded that educators must be concerned with the effects of teaching procedures on the interactions between the parent and child. (Author/IM)

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Implications for Training Parents: Measuring and Evaluating Parent-Child Interaction

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Abstract

Parent training components are now recognized to be a vital aspect of innovative early childhood intervention programs. A study conducted at the Regional Intervention Program, a parent-implemented program in Nashville, Tennessee, is presented. Antecedent and Contingent Modeling, two procedures that parents are commonly trained to use with their handicapped children were investigated. Each modeling procedure was effective in teaching children. However, Antecedent and Contingent Modeling generated quantitatively and qualitatively distinct interactions between parent and child. The system used to collect data on the parent-child interaction during training is described with suggestions for graphing and interpreting interaction data. Although teaching procedures may be very similar and equally effective, they can generate clearly distinguishable parent-child interactions. The authors argue that the nature of the interaction that occurs between parent and child is a factor that parent trainers must not overlook.

Abstract[1]

Parent training components are now recognized to be a vital aspect of innovative early childhood intervention programs. A study conducted at the Regional Intervention Program[2], a parent implemented program in Nashville, Tennessee, is presented. Antecedent and Contingent Modeling, two procedures that parents are commonly trained to use with their handicapped children were investigated. Each modeling procedure was effective in teaching children. However, Antecedent and Contingent Modeling generated quantitatively and qualitatively distinct interactions between parent and child. The system used to collect data on the parent-child interaction during training is described with suggestions for graphing and interpreting interaction data. Although teaching procedures may be very similar and equally effective, they can generate clearly distinguishable parent-child interactions. The authors argue that the nature of the interaction that occurs between parent and child is a factor that parent trainers must not overlook.

[1]This study was supported in part by Grant G00750345 from the U.S. Office of Education and by the Regional Intervention Program (RIP), located at 2400 White Avenue, Nashville, Tennessee. RIP, a data-based, parent-implemented program designed to train parents to work with their own handicapped children, is funded by the Tennessee Department of Mental Health.

[2]The authors wish to express their gratitude to Janet Christianson, Paula Eller, Ann Reynolds and Carolyn Schmidt, mothers who participated in the study, and Allison Parish for her invaluable assistance in the development of various audio-visual products. Special acknowledgement is due to Dr. Richard Shores for consultation and personal support throughout the study and during the preparation of this manuscript.

Implications for Training Parents: Measuring and Evaluating Parent-Child Interactions

Parents and teachers are confronted daily with the task of teaching young handicapped children. One parent, usually the mother, is the principal person with whom the young child interacts. Consequently, the child's major learning experiences are directly related to the way the mother structures the environment and interacts with her child within that environment. In the past "maternal instinct" guided the strategies mother used to train her handicapped child. Training strategies based on "maternal instinct" or past child-rearing experiences are no longer considered sufficient. Today there are many early childhood intervention programs available throughout the country whose purpose is to augment, enrich and specify the child's early learning experiences in a systematic accountable manner. In progressive special education programs for young children the establishment of effective classroom programs is not the only goal.

In recognition of the tremendous impact parents have on their child's growth and development (Johnson & Katz, 1972, and O'Dell, 1974) many intervention programs have begun to emphasize the importance of an organized parent training component (Feldman, Byalick & Rosedale, 1975; Flint, 1975; Kelly, 1973; and O'Connell, 1975). Often one parent becomes closely involved in his/her child's

performance at the intervention center (Wiegerink & Parrish, 1974). That parent is trained to implement specific teaching tactics to use with his child during training sessions. Generally, the teaching tactics that parents are taught include modeling and imitation procedures. Training parents to use these procedures appears to be appropriate in light of the fact that the effectiveness of modeling procedures in teaching a wide variety of behaviors is well documented (Baer, Peterson, & Sherman, 1967; Brown & Sontag, 1972; Jobes, 1975; and Shumaker & Sherman, 1970).

Unfortunately, the differences that exist among various modeling procedures are not always recognized or considered when training parents. Recently researchers have addressed themselves to documenting the differences between modeling procedures that are currently popular among teachers (Hester & Hendrickson, 1975). Two modeling procedures, Antecedent Modeling and Contingent Modeling, have been identified as basic modeling tactics predominantly used to train handicapped preschoolers. Both modeling procedures are very similar--each uses a question, a modeled response, and reinforcement for corrects. In the Antecedent Modeling procedure the child is told (modeled) the correct word (response) immediately after he is asked a question and before he makes a response. Thus, the model is presented before the child has an opportunity to answer. In the Contingent Modeling procedure the child is asked a question and given a specified amount of time to answer (3-5 seconds). If he errs,

the trainer turns his head away for three seconds, in essence, "ignores" the child. The trainer then presents the questions again, but this time models the correct response immediately. The child is reinforced for all correct responses in each procedure. Typically, Antecedent Modeling and Contingent Modeling resulted in the children acquiring and maintaining the targeted behaviors. For this reason, parent-trainers, knowing the relatively equal effectiveness of both modeling procedures, may indiscriminately select either modeling procedure for parents to learn. In short, the major criterion for selecting procedures to train parents to use with their handicapped children has been the effect that that procedure has on the child's performance.

Recently, researchers have stressed the need to consider the reciprocal effects of interaction between children when planning educational strategies (Strain & Shores, in press). Hester and Hendrickson (1975) suggested that the selection of educational procedures should include an evaluation of the interaction between parent and child that different procedures generate. They noted that this may be particularly important when the effectiveness of two procedures is relatively equivalent. In such cases differences in the nature of the interaction between the parent and child may not be immediately apparent. To examine parent-child interactions when using similar modeling procedures the authors conducted a study which investigated Antecedent Modeling and Contingent Modeling. The

purpose of the study was to document the interactions that occurred between mother and child using each modeling procedure.

The Antecedent-Contingent Modeling Study was conducted at the Regional Intervention Program, a parent implemented program for young handicapped children in Nashville, Tennessee. Children in this program exhibit a variety of disabilities ranging from severe developmental delays to mild behavior disorders. A single subject multiple baseline design with across subject replication was used. Mothers who had no previous training in special education were taught to use Antecedent and Contingent Modeling procedures. Four children, ages 26 months to 29 months, were taught to label 20 picture cards previously unknown to them. Data was collected daily during training on the interaction between mother and child to determine whether Antecedent Modeling and Contingent Modeling were really equally appropriate for mothers to use.

The data collection system used to measure mother-child interactions was a reliable, easy to learn system. A sample data collection sheet is shown in Figure 1. The parent and child's behaviors

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Insert Figure 1 about here

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are recorded (by number) in the order of their occurrence. The Antecedent Event (marked AE) indicates the type of parent presentation, the Movement Cycle (MC) denotes the child's response, and the

Subsequent Event (SE) pinpoints those parent behaviors which follow the child's response. Trial 1 in Figure 1 is an example of a typical trial during Antecedent Modeling. The parent asks a question, marked 1, and models the correct response, 2. The child responds correctly, 3, and is praised by the parent, marked 4. Trial 2 is an example of the Contingent Modeling procedure. The parent asks a question, 1, which is followed by an incorrect response by the child, 2. The subsequent event, ignoring, is marked 3, followed by a question and model from the parent, 4 and 5. The child then responds correctly, 6, and is praised.

To facilitate interpretation of interaction data, the frequency of specific response patterns under each procedure was graphed. These response patterns were the sequences of mother-child interactive behaviors surrounding both the correct and incorrect responses of the child. The mother-child response patterns during training sessions for one of the subjects are presented in part in Figure 2.

Insert Figure 2 about here

The Antecedent Modeling procedure typically generated two response patterns, one sequence when the child was correct and another sequence when the child made an error. Most often the sequence of "Question/Model/Correct/Praise" occurred when the child's response was correct. The frequency of "Question/Model/Correct/Praise" was

tallied each day from the previously described data collection sheets and is presented in Figure 2. In Figure 2 the correct sequence of interactive behaviors is represented with a triangle, (▵). The Antecedent Modeling error sequence of "Question/Model/Error" is represented by a solid triangle, (▲).

The Contingent Modeling procedure also generated two different mother-child interaction sequences for correct and error responses. In Figure 2 the Contingent Modeling sequence of "Question/Correct/Praise" is represented by a solid dot, (•). The Contingent Modeling sequence of "Question/Error/Ignore" is represented by the open circle, (o).

The results of the Antecedent-Contingent Modeling study documented qualitatively and quantitatively different mother-child interactions. Two very distinct patterns of interaction between mother and child were observed. Antecedent Modeling generated a high frequency of correct responses by the child each day of training. This high frequency of correct responses by the child resulted in the parent delivering an equally high frequency of positive reinforcement to the child. Thus, their interaction was based on positive exchange and was mutually rewarding. On the other hand, Contingent Modeling initially generated a very high frequency of errors. Embedded in this error sequence was the teacher's behavior of "ignoring." Consequently, during Contingent Modeling when the initial frequency

of errors was high, mother often ignored the child. This high frequency of ignoring the child resulted in a qualitatively different interaction, decidedly more negative, than the interaction generated by Antecedent Modeling procedure. During Antecedent Modeling mother praised and reinforced the child frequently for his high rate of correct responses. Thus, a mutually positive interaction was established.

To further underscore the importance of interaction data the investigators asked the mothers at the Regional Intervention Program their opinions of the two modeling procedures. Their answers pinpointed salient differences. Both of the parents who served as trainers stated that the Antecedent Modeling procedure was more appropriate for teaching expressive language to these young children. One mother very articulately expressed these feelings, "I preferred the (Antecedent) modeling procedure, particularly for handicapped children. It was a more positive approach. The children were not subjected to the aversive consequence of being ignored as they were during contingent modeling, even after sometimes trying to answer. In the (Antecedent) modeling procedure the child knew exactly what was expected of him. A handicapped child experiences many frustrations; therefore, the (Antecedent) modeling technique seemed to be the better approach."

Most educators would agree that the learning process should be an enjoyable experience for both the mother and the young child.

This may be particularly important when training children who probably have received more attention for their disabilities than their abilities. The views of the mothers in this study reflected the same philosophy. They preferred the Antecedent Modeling procedure because the child "was reinforced each time he imitated the word which meant that the teaching session was more fun. The mother and child should be having fun and building their relationship."

Thus, the interaction data from this study documented the need to look beyond child performance when selecting training procedures that parents may use. It seems clear that quantitatively and qualitatively different interactions, ranging from very negative to very positive, are generated by the different teaching procedures. Such quantitative and qualitative differences must be considered when training parents. Training parents of handicapped children to use "negative" procedures when more "positive" alternatives are available may be warranted in certain instances. It appears that any and all decisions regarding the selection of educational training strategies should not overlook the importance of the parent-child interaction.

In summary, it is not the intent of this paper to advocate the use of a particular modeling procedure, e.g., Antecedent versus Contingent Modeling. Rather, our purpose is to advocate that parent trainers be cognizant of the fact that 1) teaching procedures that may appear very similar can generate very different interactions

between parent and child, and 2) objective interaction data should be a part of the criterion measure used for the selection of procedures to train parents. Educators must not narrow their concern to the effectiveness of specific procedures on child performance to the exclusion of how those procedures affect the interactions between the parent and the child.

References

Baer, D. M., Peterson, R. R., & Sherman, J. A. The development of imitation by reinforcing behavioral similarity to a model. Journal of the Experimental Analysis of Behavior, 1967, 10, 504-516.

Brown, L., & Sontag, E. (Eds.). Toward the development and implementation of an empirically based public school program for trainable mentally retarded and severely emotionally disturbed students, Part II. Madison, Wis.: Madison Public Schools, 1972.

Feldman, M. A., Byalick, R., & Rosedale, M. P. Parent involvement programs--a growing trend in special education. Exceptional Children, May 1975, 551-554.

Flint, W., & Deloach, C. A parent involvement program model for handicapped children and their parents. Exceptional Children, May 1975, 556-557.

Hester, P., & Hendrickson, J. Training parents to teach their preschool behaviorally handicapped children using modeling procedures. Paper presented at the National Conference for Teacher Educators of Children with Behavioral Disorders, Atlanta, November 1975.

Jobes, N. K. The effects of imitation training and observational learning on the acquisition and retention of spelling. Unpublished manuscript, George Peabody College for Teachers, 1975.

Jonnson, C. T., & Katz, R. C. Using parents as change agents for their children: A review. Journal of Child Psychology and Psychiatry, 1973, 14.

Kelly, E. G. Parental roles in special education programming--a brief for involvement. Journal of Special Education, 1973, 1, 4, 357-364.

O'Connell, C. Y. The challenge of parent education. Exceptional Children, May 1975, 554-556.

Shumaker, J., & Sherman, J. A. Training generative verb usage by imitation and reinforcement procedures. Journal of Applied Behavior Analysis, 1970, 3, 273-278.

Strain, P. S., & Shores, R. E. Social reciprocity: A review of research and educational implications. Contemporary Journal of Educational Psychology, in press.

Wiegerink, R., & Parrish, V. A parent-implemented preschool program. Training parents to teach: Four models, 1974. (ERIC Document Reproduction Service No. 102778)

Footnotes

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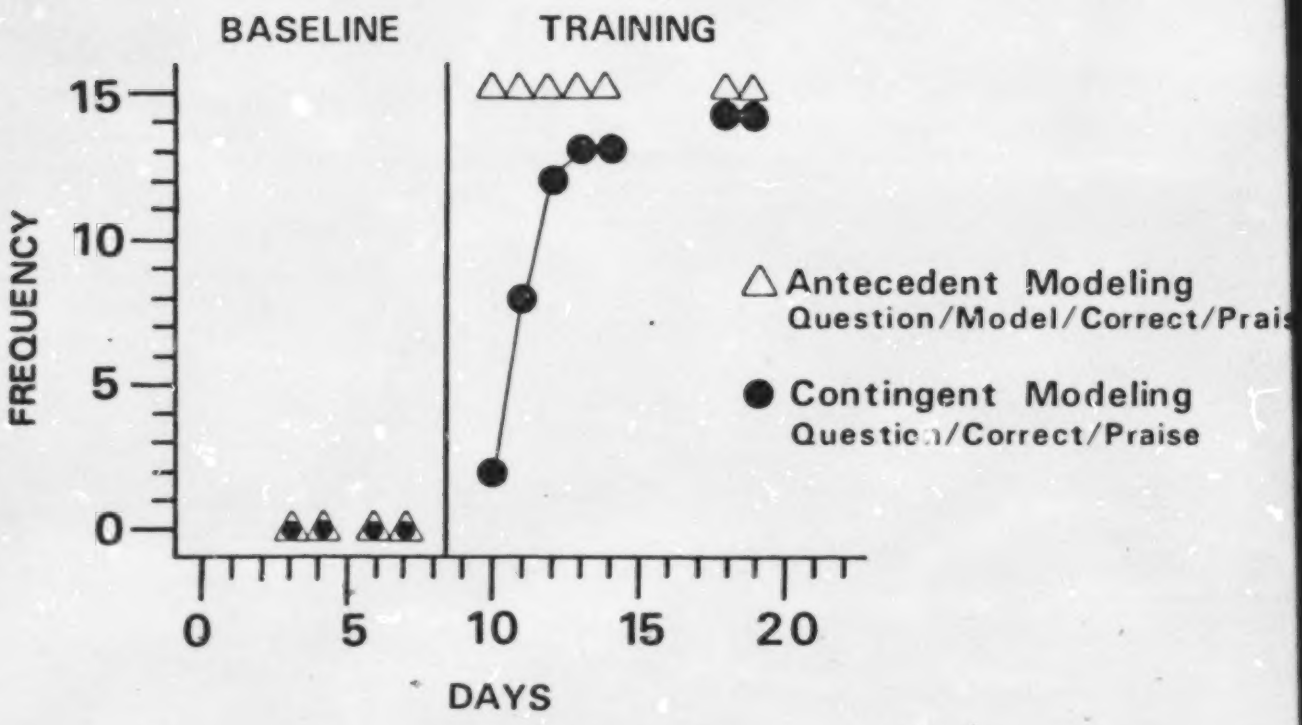
Figure Captions

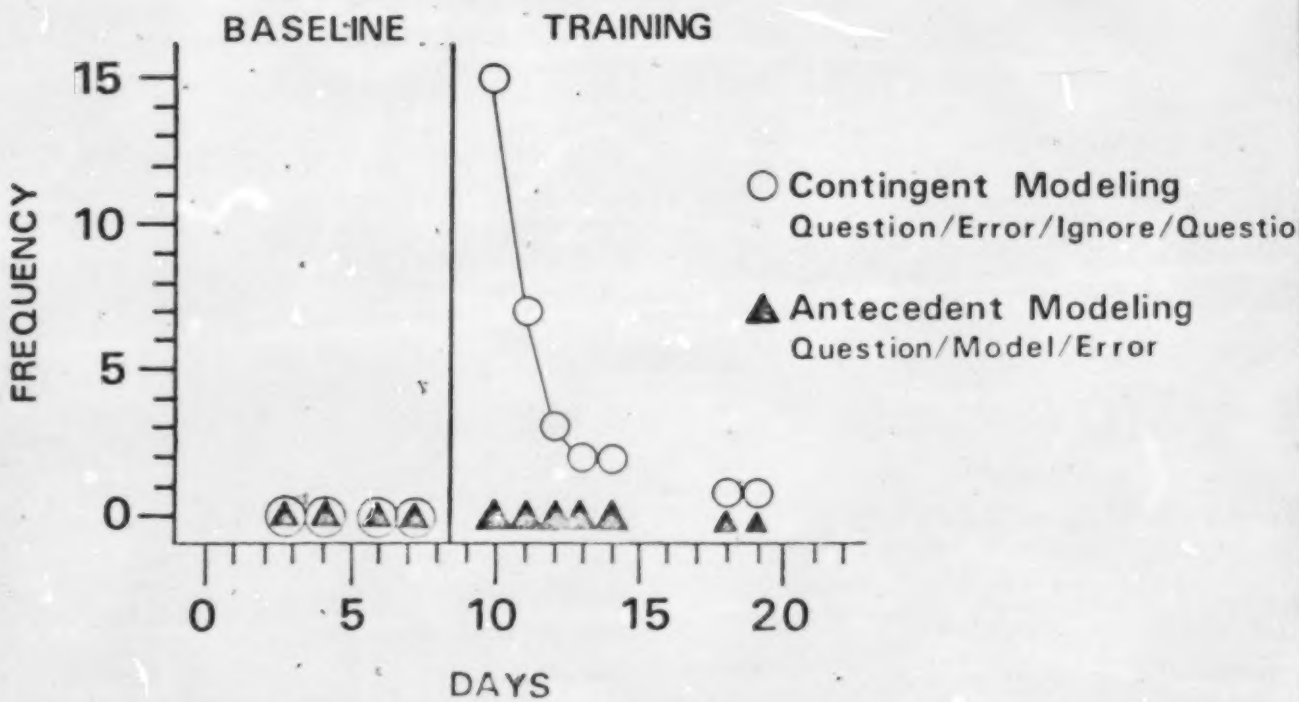
Figure 1. Sample interaction data sheet: Typical sequences of events which occur during training sessions utilizing Antecedent Modeling and Contingent Modeling procedures.

Figure 2. The daily frequency of correct event sequences (top graph) and error event sequences (bottom graph) for one representative subject during training utilizing Antecedent Modeling and Contingent Modeling procedures.

Correct Event Sequence



Error Event Sequence



ANTECEDENT EVENT	MOVEMENT CYCLE	SUBSEQUENT EVENT
Q: question	C:correct	P: praise
M: model	E:error	I : ignore
O: other	O:other	M: model
		O: other

Trial I.

A E	M C	S E
Q _____	C _____	P _____
M _____	E _____	I _____
O _____	O _____	M _____
		O _____

Antecedent Modeling

Trial II.

Q _____	C _____	P _____
M _____	E _____	I _____
O _____	O _____	M _____
		O _____

Contingent Modeling